Quick Sort Factoring Mad Minute (Appropriate for Math 91 or 95)

**PURPOSE**

Build student confidence in recognizing and differentiating between algebraic forms. The students are asked to recognize and sort. This supports decoding, seeing algebraic structure, noticing equivalent forms, and numeracy skills. This task is appropriate after strategies of factoring have been introduced and some homework exercises have been completed previously. This task not only involves all the students in an activity but provides you, the instructor, with a formative assessment opportunity.

**DIRECTIONS:**

PRINT OUT the playing sheet and cut up the pieces. It would be great to print out on card stock. You will need one set for each pair of students. Students will be working in pairs.

Students will have one minute to initially sort the expressions into like groups. The name of the factoring technique is given so that students can start sorting immediately. In the first minute students may or may not finish the sorting.

Remind the students that they may not finish –the point is to get started. Let the pairs of students work independently.

**Vocabulary**:

FACTOR BY GROUPING, Sum of Squares, Difference of Squares, Sum of Cubes, Difference of Cubes, Perfect Square Trinomial, TRINOMIAL. GREATEST COMMON FACTOR.

**GETTING STARTED:**

Hand out the “playing cards” to each pair.

Say “For the next minute sort the expressions into like groups. Get as many done as you can – do not worry about sorting them all.”

After a minute “Stop. Take a moment and compare your pair’s sorting to your neighbor. Take another 2 minutes to continue sorting together as a group of four.”

Place the group names on the ELMO in front of the room one at a time. Ask student pairs to come up and place the expressions that match the factoring technique. (12 Minutes or less). Be patient – ask students if they have anything to add.

In summary ask

“Which expressions were easy to sort? Why? “

“Which ones were hard? Why? “

“What strategies did you use to sort?”

“Which expressions were easier to recognize after factoring out a GCF?”

“Now that all the expressions are sorted, factor each.”

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| FACTOR BY GROUPING | Sum of Squares | Difference of Squares |
| Sum OR Difference of Cubes | Perfect Square Trinomial | TRINOMIAL |
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